CLAIMS

1. An ultrasonograph comprising:

an ultrasonogram generating portion for generating an ultrasonogram based on a reflection echo signal obtained by radially scanning a specimen irradiated with an ultrasonic beam and a display area;

a monitor screen for displaying the generated ultrasonogram;

a display-body image generating portion for generating an image of a display body superimposed on the ultrasonogram;

means for storing a first display position of the display body displayed on the monitor screen;

an input portion for inputting the amount of movement of the display body from the first display position to a second display position;

calculation means for determining the second display position of the display body based on the amount of movement input from the input portion and the display area; and

means for moving the display body from the first display position to the second display position determined by the calculation means.

2. An ultrasonograph according to claim 1, wherein the calculation means contains a storage portion for storing the first display position of the display body through the

position of an ultrasonic beam line and a depth on the ultrasonic beam line.

3. An ultrasonograph according to claim 1, wherein the calculation means decomposes the amount of movement input from the input portion into a component in the direction of the ultrasonic beam line of the ultrasonogram and a component orthogonal to the former component, the ultrasonic beam line of the second display portion is determined based on the component orthogonal to the former component, and the depth position on the ultrasonic beam line of the second display position is determined based on the component in the direction of the ultrasonic beam line.

4. An ultrasonograph according to claim 1, wherein the display body is a Doppler sample gate made up of a pair of line bodies opposite to each other, and the display-body image generating portion generates an image in which the pair of line bodies are displayed so as to be orthogonal to the ultrasonic beam line.

5. An ultrasonograph according to claim 1, wherein the display body is a Doppler color box marking off the display area of a color flow mapping image, and the ultrasonogram generating portion contains means for generating a color flow mapping image showing the state of a blood flow in the Doppler color box and making the image displayed in the Doppler color box on the monitor screen.

6. An ultrasonograph according to claim 1, wherein the display body is a frame body for marking off an interest area.

7. An ultrasonograph according to claim 1, wherein the calculation means determines a second display position of the display body based on a coordinate transformation rule set in advance, and the coordinate transformation rule is separately set for a case where the central angle of a sectoral or circular portion of the ultrasonogram is a set value or less and for a case where the central angle of the sectoral or circular portion of the ultrasonogram is above the set value.

8. An ultrasonograph according to claim 7, wherein the set value of the central angle is 120°.

9. An ultrasonograph according to claim 7, wherein the coordinate transformation rule contains a first coordinate transformation rule to be applied to a case where the central angle of a sectoral portion of the ultrasonogram is a set value or less and a second coordinate transformation rule to be applied to a case where the central angle of the sectoral or circular portion of the ultrasonogram is above the set value, wherein, in the first coordinate transformation rule, the direction of one axis of the amount of movement input from the input portion corresponds to a depth in the direction of an ultrasonic beam line and the

direction of the other axis corresponds to the direction orthogonal to the direction of the ultrasonic beam line, and wherein, in the second coordinate transformation rule, the amount of movement input from the input portion is decomposed into a component in the direction of an ultrasonic beam line and a component orthogonal to the ultrasonic beam line, an ultrasonic beam line at a second display position of the display body is determined based on the component orthogonal to the ultrasonic beam line, and a depth position on the ultrasonic beam line at the second display portion is determined based on the component in the direction of the ultrasonic beam line.

10. An ultrasonograph according to claim 1, wherein the calculation means contains a first conversion means which determines a second display position of the display body in accordance with a coordinate transformation rule where the direction of one axis of the amount of movement input from the input portion corresponds to a depth in the direction of an ultrasonic beam line and the direction of the other axis corresponds to the direction orthogonal to the direction of the ultrasonic beam line and a second conversion means in which the amount of movement input from the input portion is decomposed into a component in the direction of an ultrasonic beam line and a component orthogonal to the ultrasonic beam line, an ultrasonic beam line at a second

display position of the display body based on the component orthogonal to the ultrasonic beam line is determined, and a depth position in the ultrasonic beam line at a second display position is determined based on the component in the direction of the ultrasonic beam line, and the display position after movement of the display body is determined by the first conversion means when the central angle of a sectoral portion of the ultrasonogram displayed on the monitor screen is 120° or less and by the second conversion means when the central angle of the sectoral or circular portion of the ultrasonogram is above 120°.

11. An ultrasonograph according to claim 1, wherein the sectoral or circular portion of the ultrasonogram contains non-displayable areas in the central portion and the outer portion, and wherein, when the display position of the display body after movement reaches the non-displayable areas, the display body is displayed on the ultrasonogram close to the display position of the display body after movement.

12. An ultrasonograph according to claim 1, wherein the sectoral portion of the ultrasonogram contains a non-displayable area beyond the central angle of the sectoral portion, and wherein, when the display position of the display body after movement reaches the non-displayable area, the calculation means displays the display body in the side

portion of a sectoral portion of the ultrasonogram close to the display position of the display body after movement.

13. A method for controlling movement of a display body of an ultrasonograph, comprising the steps of:

generating an ultrasonogram based on a reflection echo signal obtained by radially scanning a specimen irradiated with an ultrasonic beam and a display area;

displaying the generated ultrasonogram on a monitor screen;

generating an image of a display body superimposed on the ultrasonogram;

storing a first display position of the display body displayed on the monitor screen;

inputting an amount of movement to a second display position from the first display position of the display body;

calculating the second display position of the display body based on the input amount of movement and a display area; and

moving the display body from the first display position to the second display position.

14. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein, in the step of calculating, the first display position of the display body is stored through the position of an ultrasonic

beam line and a depth on the ultrasonic beam line.

15. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein, in the step of calculating, the amount of movement input from the input portion is decomposed into a component in the direction of the ultrasonic beam line of the ultrasonogram and a component orthogonal to the ultrasonic beam line, an ultrasonic beam line of a second display position is determined based on the component orthogonal to the ultrasonic beam line, and a depth position of the second display position on the ultrasonic beam line is determined based on the component in the direction of the ultrasonic beam line.

16. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein the display body is a Doppler sample gate made up of a pair of line bodies opposite to each other, and the display-body image generating portion generates an image in which the pair of line bodies are displayed so as to be orthogonal to the ultrasonic beam line.

17. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein the display body is a Doppler color box marking off the display area of a color flow mapping image, and the ultrasonogram generating portion contains means for generating a color

flow mapping image showing the state of a blood flow inside the Doppler color box and making the image displayed in the Doppler color box on the monitor screen.

18. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein the display body is a frame marking off an interest area.

19. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein, in the step of calculating, the second display position of the display body is determined based on a coordinate transformation rule determined in advance, and the coordinate transformation rule is separately determined in a case where the central angle of the sectoral or circular portion of the ultrasonogram is a set value or less, and a case where the central angle is above the set value.

20. A method for controlling movement of a display body of an ultrasonograph as claimed in claim 13, wherein the set value of the central angle is 120°.